REMARKS

Claims 1-34 are presently pending, of which Claims 1-14, 22, and 30 were previously withdrawn from consideration. Claims 15, 23, and 27 have been amended. Support is found on page 3, lines 5-8.

Rejection of Claims 15-21, 23-29, and 31-34 under 35 U.S.C. § 103(a)

The Examiner rejected Claims 15-21, 23-29, and 31-34 as being obvious over U.S. Patent 4,576,850, issued to Martens on March 18, 1986 (hereinafter "Martens") in view of Japanese Patent Publication 8-137375, published on May 31, 1996 (hereinafter "'375 Patent").

Applicant claims a method for continuously forming a pattern in a radiation curable material that provides between a radiation source and the liquid radiation curable monomer material in a mold, a blocking pattern that can block a portion of the radiation from the radiation source and a base film in contact with said radiation curable monomer material. The monomer material is cured in a mold with radiation from the radiation source through the blocking pattern and the base film to form a pattern in the radiation curable material as the radiation curable monomer material passes the radiation source. The pattern includes a first cured portion cured to a first amount having a first index of refraction and a second cured portion cured to a second amount having a second index of refraction that is different than the first index of refraction. The first amount is sufficiently different than the second amount to result in a visible discontinuity on the surface of the structure.

The claimed invention has many advantages including forming a permanent pattern in materials that are transparent and do not significantly detract from other functions. The material can have the pattern act similar to a watermark in paper to provide a means of identification for a product's source that is difficult to forge. Also, the pattern can serve as a function of light management by altering the path of light that is transmitted through such a structure having the pattern.

Martens discloses an article that includes a shaped, plastic layer or body having crosslinked polymer with hard and soft segments or moieties and having a microstructure-bearing surface. The surface is prepared by a process that includes filling a mold master, bearing the

microstructure to be replicated, with a fluid, castable, one-part, preferably solvent-free, radiation addition-polymerizable, crosslinkable, synthetic, organic oligomeric composition exposing the resulting cast composition to radiation, and thereby forming the article.

The '375 Patent describes a thermal forming of a non-fluid thermoplastic resin in a mold. A mold is brought into contact with a thermoplastic resin composition, and heat and pressure are used to form relief patterns. The mold is removed and the patterns in the thermoplastic resin composition are then subject to irradiation via an arbitrary mask, by which regions partially varying in the degree of curing are formed. The relief image forming material formed with the cured regions partially varied in the degree of curing is softened and deformed by heating at a specific temperature. The deformed patterns are thereafter fixed by applying full-surface exposure thereon.

There is no suggestion in Martens and the '375 Patent as a whole of forming differentially-cured structures in a continuous fashion with a blocking pattern that can block a portion of the radiation from the radiation source. Additionally, the '375 Patent does not remedy the deficiencies of Martens. Both references are *silent* about different indices of refraction within a product having a first cured portion cured to a first amount having a first index of refraction and a second cured portion cured to a second amount having a second index of refraction that is different than the first index of refraction. Further, it is silent about the first amount being sufficiently different than the second amount to result in a visible discontinuity on the surface of the structure.

Further, there is no suggestion in the known prior art that the dry thermoplastic process outside a mold can be substituted into a process having a radiation curable monomer material, which can flow, in a mold to result in a pattern including a first cured portion cured to a first amount having a first index of refraction and a second cured portion cured to a second amount having a second index of refraction that is different than the first index of refraction with the first amount being sufficiently different than the second amount to result in a visible discontinuity on the surface of the structure. Furthermore, there is no disclosure or suggestion for aligning a blocking pattern between a radiation source and the radiation curable material for use in a continuous process. Also, there is no teaching or suggestion of combining the teachings of

Martens and the '375 Patent in such a way so as to render the claims of the present application obvious.

Therefore, the claims are not obvious in view of Martens and the '375 Patent, either alone or in combination thereof.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner believes that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

Robert T. Conway
Registration No. 33,859
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Dated: August 24, 2005
Concord, Massachusetts 01742-9133